

Description of *Amischa paolettii* sp. nov. and *Thamiaraea tsitsilasi* sp. nov. from the Australian region (Coleoptera, Staphylinidae)

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Abstract

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Two new species of Aleocharinae from Australia are described and illustrated: *Amischa paolettii* sp. nov. of the tribe Athetini and *Thamiaraea tsitsilasi* sp. nov. of the tribe Thamiaraeini. The genus *Amischa* Thomson is new for the Australian region.

Keywords

Coleoptera, Staphylinidae, Aleocharinae, taxonomy, Australia.

Introduction

The subfamily Aleocharinae, with over 13,000 species, is present in all zoogeographic regions of the world and most species occur in forest areas. Some species are terricolous during the day, living in soil, and in the evening become arboreal or floricolous being found on trees or on flowers. Some groups are myrmecophilous or termitophilous (Kistner, 1982) and a certain number of them live in the intertidal zones (Moore and Legner, 1976). The majority of the species in the Aleocharini are parasitoid in the larval stage of pupiparous flies (Fuldner, 1960), whereas the tribe Gyrophaenini are micophagous on fresh mushrooms (Ashe, 1984). Several species of the Hypocyptini prey on mites (Cameron, 1939). Species of *Oligota* Mannerheim, 1831, from the Australian region include *O. asperiventris* Fauvel, 1878 and *O. zealandica* Bernhauer, 1941; however, more research is needed on the Australian Hypocyptini fauna to investigate their important role in biological control of mites in various countries including the Mediterranean region (Paoletti et al., 1989).

Aleocharinae has attracted little attention from collectors and researchers. The first Aleocharinae described from Australia were *Falagria fauveli* Solsky, 1867 and *Oxypoda bisulcata* Redtenbacher, 1868 (now *Aleochara bisulcata*). McLeay (1873) described 10 more Australian species. Detailed descriptions in Latin of Aleocharinae, new and described, were given by Fauvel (1877 and 1878). Olliff (1886) published a revision of the Aleocharinae species, proposing the English translation of Fauvel's descriptions and the description of new genera and species. In 1880 and in 1895 Blackburn described three species in the genus *Aleochara*, the new genus *Barronica*, (synonym of *Leucocraspedum* Kraatz, 1859) and a new species of this genus. In 1908 Bernhauer described six new species of Australian Aleocharinae. In 1910 Lea published new

Aleocharinae species found in termite nests, ant nests and beehives, and provided a key to the species of the genus *Polylobus*, (now known as *Pseudoplandria*), ignoring Fauvel's species. In the same year he published another paper containing the description of eight new species of the genus *Calodera*. In 1920, Bernhauer described *Leptusa mjoeborgi*; however, according to my examination of the types it belongs to *Paralinoglossa mjoeborgi* (Bernhauer, 1920) comb. nov. In 1933, Oke described five new termitophilous and myrmecophilous species and genera. In 1943, Cameron described 14 new species and five more in 1950. None of these authors, except Fauvel and only in part, examined the types of the species previously described. Additionally, they did not check for the possible presence of Palaearctic genera in Australia. Recently, a taxonomic study on the species of Aleocharinae collected by the Zoological Mission of the Regional Museum of Natural Sciences in Turin financed by the National Academy of the Lincei in Rome has been published (Pace, 2003). The aim of this paper is to describe two new Australian species of this subfamily.

Methods

Species determinations were based on examination of the characters of the male copulatory organ and of the female spermatheca. Terminology follows the work of Pace (2003) and Pašník (2001).

The genital structures were dissected and placed in Canada balsam on small transparent rectangles of plastic material, pierced on some samples. The genital structures were studied using a compound microscope and drawn with the help of a gridded eyepiece. The habitus figures were drawn with the use of a micrometre eyepiece of a binocular microscope.

The positive recognition of the genera and species is best done using illustrations of the aedeagus and/or of the spermatheca. For this reason the descriptions are brief, and limited, in order to describe traits that are graphically not reproducible, such as the colour, the reticulation and the granularity. However, for species of the subfamily Aleocharinae, a very accurate and long description does not always give an exact identification of the various species. It is the observation of the illustration of the aedeagus and/or of the spermatheca, together with that of the habitus, which helps resolve interpretative problems given by the description alone. The holotypes of the new species are deposited in Museum Victoria (MV), Melbourne, and Victoria, Australia.

Systematics

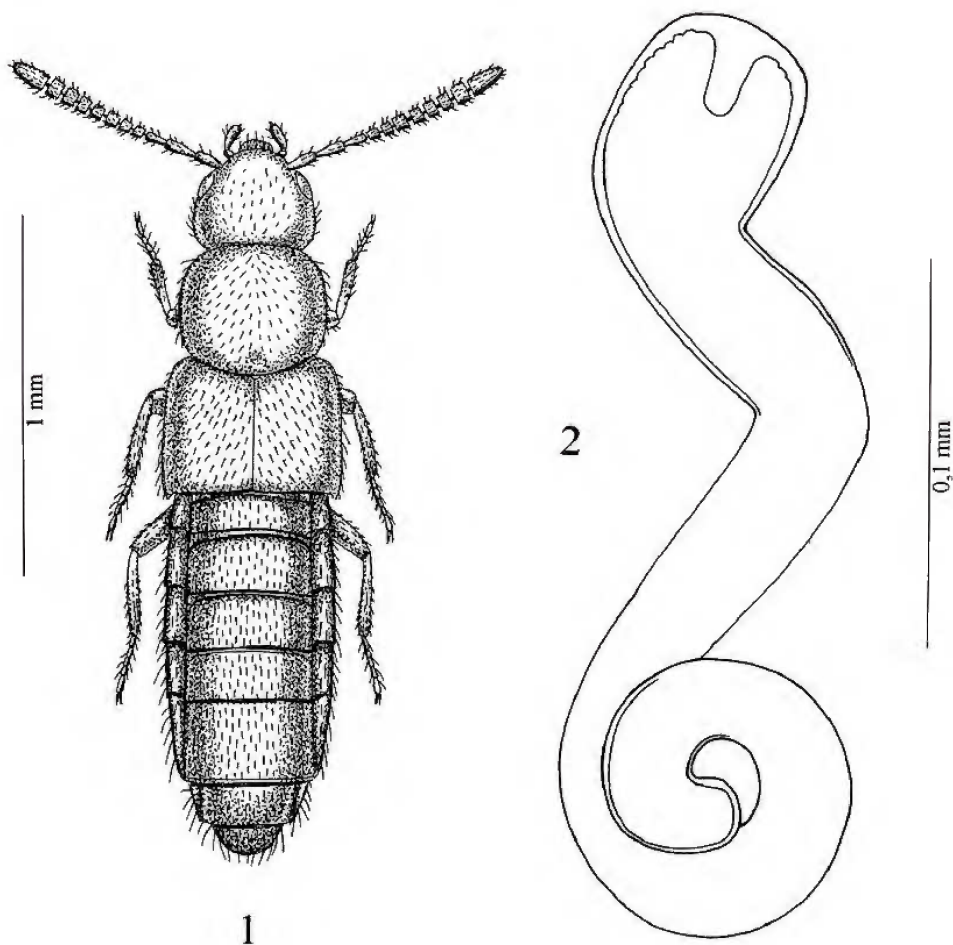
Athetini

Amischa paolettii sp. nov.

Figures 1-2

Holotype: ♀, Australia, Victoria, Gerangamete near Colac, remnant forest, 12.VIII.2004, by sweep net in pasture at forest margin, 50 m, leg. M. G. Paoletti and A. Tsitsilas (MV T-18706).

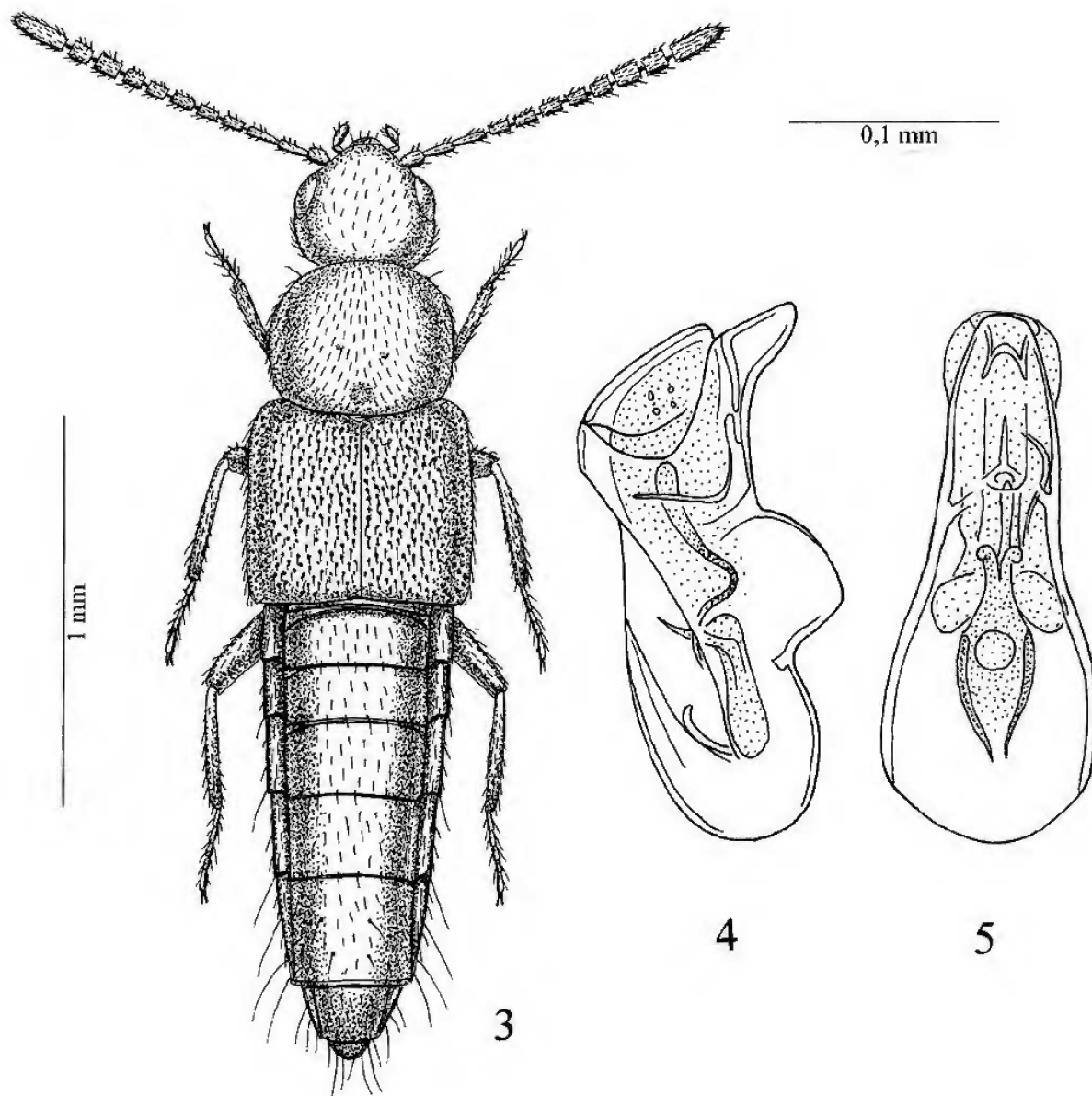
Description. Length 1.7 mm. Body shiny and brown with head and 4 basal free urites with base of the 5th urite black-brown; antennae black with 2 basal antennomeres yellow; legs yellow; 4th antennomere as long as wide; remaining antennomeres to the



Figures 1–2. Habitus and spermatheca of *Amischa paolettii* sp. nov.

10th transverse. Pronotum weakly transverse and with a weak posterior median fovea. Head and elytra reticulate; reticulate sculpture evident on pronotum, that of the abdomen superficial except evident on the 5th segment; punctuation of head not distinguishable; granularity of pronotum and of abdomen fine and superficial, on elytra also fine, but evident. Spermatheca, fig. 2.

Note. The genus *Amischa* Thomson, 1858, occurs in the Palearctic, Ethiopian and Oriental regions and this new species is the first record of the genus for the Australian region. The new species has habitus similar to that of *Amischa kashmirica* Cameron, 1939, from Kashmir. The female of the new species does not have the 6th free urotergum broadly



Figures 3–5. Habitus and aedeagus in lateral and ventral view of *Thamiaraea tsitsilasi* sp. nov.

arched as that of *kashmirica*, the spermatheca has the distal bulb reduced, despite the body being more developed in length (distal bulb very long in *kashmirica*).

Etymology. The new species is dedicated to one of its collectors, the Dr. Maurizio G. Paoletti of the University of Padua.

Thamiaraeini

Thamiaraea tsitsilasi sp. nov.

Figures 3–5

Holotype ♂, Australia, Victoria, Gerangamete near Colac, remnant forest, 12.VIII.2004, by sweep net in pasture at forest margin, 50 m, leg. M.G. Paoletti and A. Tsitsilas (MV T-18707).

Description. Length 2.3 mm. Body shiny and black-brown; antennae black, legs yellow with yellow-brown femurs, 3rd, 4th and 5th antennomeres longer than wide, 6th weakly longer than wide, 9th and 10th as long as wide, 2 superficial posterior points and an evanescent posterior median fovea on the pronotum. Abdomen scarcely narrow behind. Reticulation of the head and the pronotum evident, that of the elytra very evident and that of the abdomen superficial. Granularity of head and pronotum superficial, that of the abdomen fine, fewer closes on the posterior free urotergites. Punctuation of the elytra strong and close. Aedeagus, figs. 4–5.

Note. The genus *Thamiaraea* Thomson, 1858, occurs in the Nearctic, Palaearctic, Oriental and Australian regions. The species *T. scapularis* (Fairmaire, 1849) occurs in Sri Lanka, Hong Kong, Sulawesi, Singapore, New Guinea, Philippines, Sabah, New Caledonia, New Hebrides and Tahiti. The new species is clearly distinguished from this species by the 9th and 10th antennomeres of the new species being as long as wide but transverse in *scapularis*; the abdomen of the male of the new species is deprived of evident secondary sexual characters as is the abdomen of *scapularis*; the aedeagus of the new species is bent at the apex, in lateral view, and rectilinear in *scapularis*.

Etymology. The new species is dedicated to one of its collectors, PhD student Mr. A. Tsitsilas from the Centre of Environmental Stress and Adaptation Research (CESAR), The University of Melbourne, Melbourne, Victoria, Australia.

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